



Document Title:  
**Aluminum Shear Bolt Terminal Lug with 2 Holes**

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Department  
**Distribution**

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**01**

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**Management Approval (If apply)**

<b>Approver</b> Name Position	Signature and Date N/A
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**Related/Referenced Documents**

N/A.

**Version History**

Version	Date	Revision
01	Mar. 07, 2024	Initial release for Items 002-85832, 002-85833, and 002-85834.



### Item Version History

Warehouse Catalog #	Asset Suite	Version	Date
002-85832	85832	1	3/7/2024
002-85833	85833	1	3/7/2024
002-85834	85834	1	3/7/2024



## 1. Introduction

This is a general specification that covers the minimum requirements for aluminum shear bolt lug with 2 holes for ACSR, AAAC, and copper conductors used in the distribution system in Puerto Rico. Further information will be provided by LUMA Energy at the time of order placement and will provide information on site specific conditions, quantity, and other requirements. This document includes the general electrical and mechanical characteristics of the equipment/material.

## 2. Special Requirements

Samples shall be furnished as requested by LUMA Energy. Vendors that have supplied this equipment/material to LUMA on previous orders will not have to furnish samples at bid opening. The equipment/material will be received at the LUMA's general warehouse (011) at Palo Seco, Puerto Rico. Shipping will include transportation and unloading at the indicated warehouse.

## 3. Literature

Descriptive and technical literature must be supplied by the vendor at time of bidding. This literature may include, but is not limited to details of material, drawings, documented testing, and instructions for use and installation. Failure to submit documents on time will cause bidder disqualification.

## 4. Markings

- 4.1. Containers shall be marked outside with LUMA Energy's purchase order and item number.
- 4.2. Packaging labels and tags shall be waterproof.

## 5. Compatible with:

See Table 1 for compatible manufacturers and models. These models are examples of the equipment/material described in this document and do not represent a preference. LUMA will evaluate equally any model not listed here during any acquisition event.

## 6. Packaging

All equipment/material shall be packaged and marked in such a way as to facilitate handling and protection from damage and that the receiving warehouse can readily identify it and send it, in one complete unit, to a field location without opening crates or boxes to sort items and/or parts.

## 7. Number Per Package (Logistics)

7.1. Standard package: One (1) unit per package or as requested by LUMA Energy.

## 8. Acceptance Criteria

8.1. Test required: certified by external laboratories.

8.2. Latest applicable codes, standards, and other regulations:

- a. NEMA/ANSI C119.4-2016: Connectors for Use Between Aluminum to Aluminum and Aluminum to Copper Conductors Designed for Normal Operation at or Below 93°C and Copper to Copper Conductors Designed for Normal Operation at or Below 100°C.
- b. UL 486A-486B: Standard for single-polarity connectors for use with all alloys of copper or aluminum, or copper-clad aluminum conductors.

## 9. Description

- 9.1. Aluminum shear bolt terminal lug used for making disconnectable tap or jumper connections on ACSR, AAAC, and copper conductors when mechanical connection is needed.
- 9.2. Shall be suitable for voltages up to 35 kV as minimum.
- 9.3. Shall be made of high strength aluminum alloy, tin-plated.
- 9.4. Shall be suitable for aluminum and copper conductors.
- 9.5. Shall be prefilled with oxide inhibiting compound, strip sealed, and capped to limit oxide formation.
- 9.6. Shall have shear bolts to ensure the correct torque is applied for optimal contact force.
- 9.7. The barrel must be designed with an internal chamfer at the wire entry to ensure smooth insertion of the wire, preventing possible damaging of the strands.
- 9.8. The tongue thickness must be not less than the specified in Table 1, depending on the conductor size.
- 9.9. The tongue must be straight angle and have two (2) holes to minimize the terminations from loosening or rotating under vibration, movement, or heat cycling.
- 9.10. The tongue holes must be 9/16" (14.3 mm) diameter, for 1/2" (12.7 mm) diameter bolts, with 1-3/4" (44.45 mm) stud hole spacing as per NEMA standard.



9.11. The connector must be clearly marked to show manufacturer name, model, and conductor range.

## 10. Inspection

The acceptance of any equipment/material shall in no way relieve the vendor from his responsibility to meet all the requirements of this specification, and it would not prevent subsequent rejection if such equipment/materials were found later to be defective.

## 11. Proposal Information

11.1. Submitted proposals must include:

- a. Technical information
- b. Table of Compliance completed by the bidder with reference (see Appendix 1).

## 12. Table 1: Warehouse and Asset Suite Identification Number

Warehouse Catalog #	Asset Suite #	[Overall Conductor Size Range] (Overall Conductor Diameter Range) Our Conductors Size Range	Approx. Length	Min. Tongue Thickness	Bolts	Compatible Manufacturer & Model
002-85832	85832	[#2 AWG compact - 350 MCM standard stranded] (0.268" - 0.681") #2 (6/1) - 266.8 (26/7) ACSR, 123.3 - 195.7 AAAC, #2 - 300 Cu	5.9"	0.39"	2	TE (ASBT-2-350, P/N 1099368-1)
002-85833	85833	[350 compact - 750 MCM standard stranded] (0.616 - 0.998") 266.8 (26/7) - 556.5 (24/7) ACSR & 556.5 (24/7) ACSS, 394.5 - 652.4 AAAC	7.4"	0.62"	3	TE (ASBT-350-750, P/N 1099369-1)
002-85834	85834	[600 compact - 1000 MCM standard stranded] (0.813" - 1.152") 556.5 (24/7) ACSR & 556.5 (24/7) ACSS, 652.4 - 927.2 AAAC	7.7"	0.80"	3	TE (ASBT-600-1000, P/N 1099585-1)

— End of Specification —



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Lug with 2 Holes

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## Appendix



## Appendix 1: Table of Compliance

Line	Criteria	Description	Pass/Fail (P/F)	Comments
1	Specification	The Proponent complies with the corresponding specification document 4350.336.		
2	Industry Standards	The Proponent complies with the industry standards established in the specification document. (NEMA, UL)		
3	Type	Aluminum compression terminal lug with two (2) hole, straight angle tongue, and no inspection window.		
4	Material	Tin-Plated High Strength Aluminum Alloy		
5	Product Requirement	Suitable for aluminum and copper conductors.		
		Pre-filled with an oxide inhibiting compound strip sealed.		
		Tongue thickness between as per Table 1.		
		Two (2) holes tongue, 1/2" diameter with 1-3/4" stud hole spacing as per NEMA standard.		
		Bolts Quantity as per Table 1.		
		Permanent marked with manufacturer name, model, and conductor range.		
6	Conductor Size Range	Conductor size range as per Table 1.		










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Final Audit Report

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